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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,191	08/23/2000	Yang-Woon Na	40176/DBP/Y35	4643

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CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER

BERCK, KENNETH A

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/648,191

Applicant(s)

NA ET AL.

Examiner

Ken A Berck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Amendment A, filed 7/15/03, has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 7-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fahlen et al. (US 5667418).

Regarding claim 1, Fahlen discloses (fig 13) a flat panel display with a faceplate (12) to form a vacuum tight cell, having a plurality of electron emission sources, a light emission unit placed within the cell to emit light from the cell, a frame (35) mounted on the backplate (16) having opening portions, the electron emission sources being exposed through the opening portions towards the faceplate, a plurality of spacers (42) formed on the frame positioned at a non-display area within the cell, a plurality of gate electrodes (fig 9A) formed at a surface of the frame with a predetermined pattern, the gate electrodes having opening portions communicating with the opening portions of the frame.

Regarding claim 2, Fahlen discloses (column 23, lines 49-65) the frame is formed with a photosensitive glass.

Regarding claim 3, Fahlen discloses (column 6, lines 40-51) a focusing electrode formed on an opposite surface of the frame with a predetermined

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pattern, the focusing electrode having opening portions communicating with the opening portions of the frame.

Regarding claim 4, Fahlen discloses (figs 9a-9b) a plurality of cathode electrodes (910) formed on the backplate within the cell, emitters (909) formed on the cathode electrodes as the electron emission sources while being placed within the opening portions of the frame, anode electrodes formed on the faceplate within the cell with a predetermined pattern and a plurality of phosphors (913) formed on the anode electrode.

Regarding claim 5, Fahlen discloses (fig 9) the emitters are face-emitters.

Regarding claim 7, Fahlen discloses (fig 11) the spacers are formed on a one-sided surface of the frame.

Regarding claim 8, Fahlen discloses (fig 10a) the spacers are formed on both surfaces of the frame opposite to each other.

Regarding claim 9, Fahlen discloses the spacers and the frame are formed in a body with the same material (glass-ceramic).

Regarding claim 10, Fahlen discloses (fig 7) the frame has holders, and the spacers are fitted within the holders.

Regarding claim 11, Fahlen discloses (308b, 307b) the support is formed at a side portion of the frame in a body such that the support fixedly contacts the faceplate.

Regarding claim 12, Fahlen discloses (fig 3) the support is fitted between the faceplate and backplate.

Regarding claim 13, Fahlen discloses a dielectric layer (702) formed on the backplate.

Regarding claim 14, Fahlen discloses the dielectric layer is formed with a photosensitive material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen et al. (US 5667418) in view of Chuang et al. (US 6359383).

Fahlen discloses all of the above claim limitations but fails to clearly point out using carbon nano-tubes.

Chuang discloses using carbon nano-tubes to form the emitter in order to reduce cost and to avoid size limitations.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display of Fahlen with the carbon nano-tubes to form the emitter in order to reduce cost and to avoid size limitations, as taught by Chuang.

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

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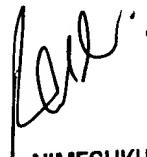
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken A Berck whose telephone number is (703)305-7984. The examiner can normally be reached on Mon-Fri 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.


kab


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800